

RECORDS OF WILDLIFE FROM TONGA, ESPECIALLY VAVA'U

B. J. GILL

AUCKLAND INSTITUTE AND MUSEUM

Abstract. Records are presented of reptiles, birds and mammals seen (and reptiles collected) in September and October 1989 on six islands of the Vava'u group (Vava'u, Pangaimotu, 'Utungake, Okoa, Koloa and Kapa), Kingdom of Tonga. A few records from Tongatapu and Ha'apai are included. The Dandy Skink (*Emoia trossula*) is reported from Vava'u for the first time. A map shows localities where this lizard and the endemic Tongan Whistler (*Pachycephala jacquinoti*) were seen in the Vava'u group. Green-backed Herons (*Butorides striatus*) are reported from Tonga for the first time, and the second record of the White-faced Heron (*Ardea novaehollandiae*) in Tonga is given.

The current distribution of reptiles, birds and mammals in the Tongan archipelago has been reported in recent papers by Dhondt (1976), Gill (1987, 1988) and Rinke (1986a, 1986b, 1987). In this paper I present further distributional records based on:

- (1) My observations of wildlife, and collections of reptiles, in September-October 1989. Where no observer or date are given the observations were by me at this time. I spent nine nights on Tongatapu, with day-trips to Atatā and Pangaimotu Is (Tongatapu group). I spent 15 nights at Neiafu (Vava'u I) from where I travelled that island extensively by motor vehicle and on foot, and made day excursions within the Vava'u group to Pangaimotu, 'Utungake, Okoa and Koloa Is (which are connected to Vava'u I by causeways) and Kapa I (which is not). The records of reptiles and land birds on the six Vava'u group islands are summarised in Table 1.
- (2) Some incidental records from Tongatapu, Ha'apai and Vava'u; my own, where no observer is given, or supplied by others, and so acknowledged.

Where weights and snout-vent lengths (SVL) of lizards are given in the main systematic list, I took these in September-October 1989 from freshly killed specimens. The reptiles were collected for Auckland Museum, and the registration numbers (prefix H) are given. In Table 2, however, the measurements were taken after preservation. Specimens of *Cryptoblepharus* are referred to *eximius* rather than *poecilopleurus* on advice from G.R. Zug.

In the lists that follow, Vava'u (as opposed to "Vava'u group"), Pangaimotu, 'Utungake, Okoa, Koloa, Kapa, 'Oto and Nuku are individual islands of the Vava'u archipelago. "Vava'u group" is used for some or all of these islands taken together.

Table 1. Summary of reptiles and land birds recorded on six Vava'u islands, September-October 1989.

	VAV*	PANG	UTU	OKOA	KOL	KAPA
REPTILES						
<i>Gehyra oceanica</i>	+		+			+
<i>Lepidodactylus lugubris</i>	+					
<i>Cyrtodactylus pelagicus</i>	+					
<i>Cryptoblepharus eximius</i>	+		+			
<i>Lipinia noctua</i>	o		+			
<i>Emoia cyanura</i>	+					+
<i>E. pheonura</i>	+					+
<i>E. trossula</i>	+				o	o
LAND BIRDS						
Banded Rail	o				o	
Purple Swampphen	o					
Crimson-crowned Fruit-dove	o	o	o			o
Pacific Pigeon	o	o	o		o	o
Barn Owl	o					
White-rumped Swiftlet	o	o	o	o	o	o
Collared Kingfisher	o	o	o	o	o	o
Polynesian Triller	o	o	o	o	o	o
Tongan Whistler	o		o			
Polynesian Starling	o	o	o	o	o	o
Wattled Honeyeater	o					

*VAV — Vava'u, PANG — Pangaimotu, UTU — 'Utungake, KOL — Koloa, + — specimen collected, o — sighting only.

Note that there is a Pangaimotu I in each of the Vava'u and Tongatapu groups. Lake Ngofe, the smaller of the two lakes at the south-west tip of Vava'u I, and a good habitat for rails, was so overgrown with tall reeds that it appeared from the edge to have no standing water.

REPTILES

Oceanic Gecko *Gehyra oceanica*

Vava'u: House gecko, Neiafu (H1290). Under bark of rotting trees in forest, Mt. Talau (H1292-7), and edge of plantation near Holonga (H1307). *'Utungake*: Under bark in forest (H1301). *Kapa*: In decaying timber structure (H1315). SVL 31-75 mm, weight 0.8-9.5 g (n = 10).

Mournful Gecko *Lepidodactylus lugubris*

Vava'u: House gecko, Neiafu (H1286-8), or under bark of rotting trees at forest edge, Mt. Talau (H1298-9). SVL 23-48 mm, weight 0.2-2.6 g (n = 5).

Pelagic Gecko *Cyrtodactylus pelagicus*

Vava'u: Near Holonga, in rotten tree stump at edge of plantation (H1306, SVL 48 mm, weight 2.7 g).

Snake-eyed Skink *Cryptoblepharus eximius*

Vava'u: From town pavement, Neiafu (H1289), and pier at Tu'anuku village (H1316). *'Utungake*: Nga'unoho, in litter above strand line of sandy beach (H1302). SVL 36-37 mm, weight 0.6-0.9 g (n = 3).

Moth Skink *Lipinia noctua*

Atatā I, off Tongatapu: Under stacks of dead weeds in plantation (H1283-5, SVL 42-47 mm, weight 1.6-1.9 g). *Vava'u*: Seen. *'Utungake*: Under sheet of cardboard at roadside (H1300, SVL 40 mm, weight 1.2 g).

Emoia cyanura species group

These lizards were widespread and common in the *Vava'u* group in both forests and plantations. Following the description by Ineich (1987) of *Emoia pheonura*, a cryptic sibling species sympatric with *E. cyanura*, each individual must be examined closely to determine to which of these species it belongs. Of the seven specimens I collected in the *Vava'u* group, three were *pheonura*. These, and all three specimens from *Atatā I*, lacked fusion of scales along the mid-dorsal line. Of the four specimens of *cyanura* from the *Vava'u* group, two had extensive fusion of mid-dorsal scales, but H1309 had only two pairs of fused scales. H1291 showed no scale fusion on the mid-dorsal line but had other characters of *cyanura* (post-mental groove, dark thighs and no frontoparietal spot).

Blue-tailed Skink *Emoia cyanura*

Vava'u: H1291, H1308-9. *Kapa*: H1313.

Cryptic Skink *Emoia pheonura*

Atatā I, off Tongatapu: In plantation litter (H1280-2). *Vava'u*: Tefisi (H1310-1). *Kapa*: H1314.

Dandy Skink *Emoia trossula*

This species, one of several long called "*E. samoensis*", was described from Fiji and Rotuma by Brown & Gibbons (1986) and reported from Rarotonga, Cook Islands group, by Crombie & Steadman (1986). Gibbons & Brown (1988) listed it from 'Eua (Tongatapu group), without further details, which is the first published report of this species from Tonga. I caught three adults of this species (H1304, H1312, H1317), and a juvenile (H1305), on *Vava'u I*. I saw them at many localities on *Vava'u*, *Koloa* and *Kapa Is* (Fig. 1).

In addition to the four specimens from *Vava'u*, I have examined nine specimens of this species from 'Eua collected by D.R. Rinke, October 1983 to May 1984 (ZFMK 41101-7 and 41585-6, Zoologisches Forschungsinstitut und Museum Alexander Koenig, Bonn, West Germany). Table 2 summarises the size and scale-counts of all 13 specimens. These data agree entirely with the diagnostic features of the Fijian populations (Brown & Gibbons 1986), which are: snout-vent length up to 103.0 mm, mid-body scale-rows 32-40, and lamellae under fourth toe 42-54. In colour and pattern the Tongan specimens fit Brown & Gibbons' description. They resemble the Fijian specimen that Brown & Gibbons illustrated in fig. 2 except that in Tongan adults the dark dorsolateral blotches and the bright longitudinal dashes on the back and sides are much less developed. These features are more pronounced on some of the Tongan juveniles.



Fig. 1. Northeastern part of the Vava'u group showing the main town (Neiafu), Lakes Ano and Ngofe, and the names of the islands visited. Closed stars show where Tongan Whistlers were seen or heard; open stars where Dandy Skinks were seen or caught.

Table 2. Size (mm) and scale-counts of *Emoia trossula* from Vava'u I and 'Eua.

Location	Age	n	SVL	Mid-body scale rows	4th toe lamellae
Vava'u	ad.	3	90.0-100.0	33-35	48-52
Vava'u	juv.	1	48.6	34	46-48
'Eua	ad.	2	98.3-103.6	32-33	45-46
'Eua	juv.	7	36.4-64.8	34	46-52
All specimens		13	36.4-103.6	32-35	45-52

On Vava'u, Koloa and Kapa Is, I saw *E. trossula* in plantations and associated scrub. Often I disturbed them at the roadside and they ran up the nearest tree trunk.

“Cook’s Tortoise” (Tu’i Malila)

Tongatapu: The tortoise currently in the Royal Palace grounds (Gill 1988) arrived in Tonga on 16 September 1966 (*Tonga Chronicle*, 23/9/1966). It was a gift to the Kingdom from the National Geographic Society which obtained it from Madagascar intending it to be a mate for the tortoise that died on 18 May 1966. It is presumably *Testudo radiata*, and was named “Tu’i Malila II” by King Taufa’ahau Tupou IV.

BIRDS

White-tailed Tropicbird (Tavake) *Phaethon lepturus*

Vava'u: Three at coast near Toulā. *Kapa*: One off northern tip.

Brown Booby (Ngutulei) *Sula leucogaster*

Tongatapu: One between Atatā I and Tongatapu. One feeding just off Pangaimotu Island.

Great Frigatebird (Helekosi) *Fregata minor*

Tongatapu: All black male over Nuku’alofa, February 1989 (E.F. Fabian, pers. comm.). Group of eight over Atatā I. *Vava'u*: One at cliffs north of Holonga.

Lesser Frigatebird (Helekosi) *Fregata ariel*

Tongatapu: Two over plantations near Keleti Beach. *Vava'u*: One near Neiafu. One at cliffs north of Holonga.

White-faced Heron *Ardea novaehollandiae*

Tongatapu: One on mudflats near Sopus west of Nuku’alofa on 14 March 1990 (D.T. Fabian, pers. comm.).

Reef Heron (Motuku) *Egretta sacra*

Vava'u group: Common around coast. Altogether, two white-phase and 15 grey-phase birds were seen.

Green-backed Heron *Butorides striatus*

Tongatapu: Two on mudflats near Sopus west of Nuku’alofa on 14 March 1990 (D.T. Fabian, pers. comm.).

Banded Rail (Veka) *Rallus philippensis*

Vava'u: One at edge of Lake Ngofe; one in scrubby plantation near Keitahi Beach. One at Neiafu in March 1990 (D.T. Fabian, pers. comm.). *Koloa*: One in plantation.

Purple Swamphen (Kala’e) *Porphyrio porphyrio*

Vava'u: One near Makave; 15 at edge of Lake Ngofe.

Lesser Golden Plover (Kiu) *Pluvialis fulva*

Vava'u group: On mown grass beside Lupepau’u Airport runway, on grazed land at edge of Lake Ngofe, and on village greens (Vava’u I); otherwise common on mudflats everywhere.

Wandering Tattler (Kiu) *Tringa incana*

Vava'u group: Common in ones and twos around the coast.

Bristle-thighed Curlew *Numenius tahitiensis*

Tongatapu: Several on mudflats near Sopu west of Nuku'alofa on 14 March 1990 (D.T. Fabian, pers. comm.). *Vava'u*: One on mudflats at causeway near Toula; seen at length in good light but not very closely; no buffiness of plumage was noted so it may have been a Whimbrel *N. phaeopus*, though this is unlikely.

Bar-tailed Godwit *Limosa lapponica*

Tongatapu: Several on mudflats near Sopu on 14 March 1990 (D.T. Fabian, pers. comm.).

Turnstone *Arenaria interpres*

Tongatapu: Several on mudflats near Sopu on 14 March 1990, all coming into breeding plumage (D.T. Fabian, pers. comm.). *Vava'u*: Four near causeway to Koloa I. *Pangaimotu*: Five on mudflats near causeway to Vava'u I and one near causeway to 'Utungake I.

Crested Tern *Sterna bergii*

Vava'u group: Common around the coast. Also seen at shore of Lake Ano.

Black-naped Tern *Sterna sumatrana*

Vava'u group: Common around the coast singly, in pairs, or in groups of up to 20.

Bridled Tern *Sterna anaethetus*

Vava'u group: A few at 'Oto I, west of Kapa, on 13 March 1990 (D.T. Fabian, pers. comm.). Dark above; larger than Black-naped Terns but smaller than Sooty Terns (*Sterna fuscata*); white on head appeared to extend behind eye. One sitting at the entrance to a cave was beside a small, grey, fluffy chick.

Brown Noddy (Ngongo) *Anous stolidus*

Tongatapu: Present along north coast near Nuku'alofa on 8 March 1990 (D.T. Fabian, pers. comm.).

Note: Dark noddies (species not determined) were very abundant in the inshore waters of the Vava'u group, sometimes in feeding flocks of several hundred.

Black Noddy (Ngongo) *Anous minutus*

Tongatapu: More common than *A. stolidus* along north coast near Nuku'alofa on 8 March 1990 (D.T. Fabian, pers. comm.). *Vava'u group*: Present at Nuku I west of Kapa on 13 March 1990 (D.T. Fabian, pers. comm.).

White Tern ('Ekiaki) *Gygis alba*

Vava'u: Five near Makave. Six at cliffs north of Holonga. Several flying over plantations along coast road between Leimatu'a and Tefisi. *Kapa*: Six over plantation.

Crimson-crowned Fruit-dove (Kulukulu) *Ptilinopus porphyraceus*

Note: All fruit-doves seen closely in the Vava'u group were this species. *Vava'u*: Common in village and countryside. *Pangaimotu*, 'Utungake, *Kapa*: Present.

Pacific Pigeon (Lupe) *Ducula pacifica*

Vava'u: Common in or near forest or flying between forest patches. *Pangaimotu*, 'Utungake, *Koloa*, *Kapa*: Present.

Blue-crowned Lorikeet (Henga) *Vini australis*

Tongatapu: On 20 September at Lapaha village I had clear but distant views of two small birds with blunt heads that flew quickly across open sky. They had direct flight (no dipping) and rapid wing-beats.

Barn Owl (Lulu) *Tyto alba*

Vava'u: One seen at edge of Neiafu after dark.

White-rumped Swiftlet (Pekepeka) *Collocalia spodiopygia*

Vava'u: Very common. They forage at dusk long after other diurnal birds have roosted. *Pangaimotu*, 'Utungake, *Okoa*, *Koloa*, *Kapa*: Common.

Collared Kingfisher (Sikotā) *Halcyon chloris*

Vava'u, *Pangaimotu*, 'Utungake, *Okoa*, *Koloa*, *Kapa*: Common.

Polynesian Triller (Sikiviu) *Lalage maculosa*

Vava'u: Fairly common. *Pangaimotu*, 'Utungake, *Okoa*, *Koloa*, *Kapa*: Present.

Tongan Whistler (Hengehenga) *Pachycephala jacquinoti*

Vava'u group: Quite common in suitable forested habitat. Fig. 1 shows localities where I saw this species. The immature has much rufous on the back and head. A female fed an immature on 22 September while the male called nearby.

Polynesian Starling (Misi) *Aplonis tabuensis*

Vava'u: Very common. *Pangaimotu*, 'Utungake, *Okoa*, *Koloa*, *Kapa*: Common.

Wattled Honeyeater (Fuleheu) *Foulehaio carunculata*

Vava'u: Seen at Neiafu, on Mt. Talau, at Tu'anequivale, and in flowering "flame trees" at edge of Lake Ngofe.

MAMMALS

Flying Fox (Peka) *Pteropus tonganus*

Vava'u: Seen at edge of Neiafu (few flying), western edge of Mt. Talau (many flying), beach at foot of cliffs north-east of Holonga (many roosting) and peninsula near Makave (many flying). *Ha'apai group*: About 60 seen at edge of swamp at centre of Foa I; more than 100 seen at roost on Lofanga I (July 1988).

House Mouse *Mus musculus*

Tongatapu: Auckland Museum M513, 514, coll. D.R. Rinke 1990.

Norway Rat *Rattus norvegicus*

Tongatapu: A large male seen foraging by day along a stone embankment near Queen Salote wharf, Nuku'alofa.

DISCUSSION

Having now caught and examined *Emoia trossula* I have no doubt that the large skinks I observed closely (Gill 1988) on Foa, Ha'apai group, were this species. The large skinks I saw less clearly on Tongatapu (Gill 1988) and 'Eua (Gill 1987) were very probably this species. The discovery that *E. trossula* is widespread in the main Tongan island groups gives this species a broad east-west distribution between Fiji and Rarotonga. However, it is not clear whether this is a natural distribution. Any or all of the reptiles not endemic to Tonga — the whole herpetofauna excepting *Lepidodactylus euaensis* and the enigmatic *Tachygia microlepis* — could have been transported there accidentally or deliberately by Polynesians, who first colonised Tonga just over 3,000 years ago (Davidson 1979). Crombie & Steadman (1986) discussed this problem in relation to Cook Is lizards.

D. T. Fabian's sighting of Green-backed Herons is the first record of this species from Tonga. His record of White-faced Heron is the second Tongan record of that species, which was seen at the same locality in July 1988 (Gill 1988). He was able to compare the White-faced Heron with a nearby grey-phase Reef Heron. The Green-backed Herons were seen closely enough to notice fine streaking on the breast and barring on the flanks. He knows this species well from South Africa (where he lives) and Mauritius, and did not know they were not on the Tongan list until after his sighting. Green-backed Herons are resident in the Fiji and Society Is, and rare visitors to western Micronesia and the Hawaiian group (Pratt *et al.* 1987).

Blue-crowned Lorikeets are thought to be extinct in the Tongatapu group (Rinke 1986b). Those that I saw could have been pet birds that had escaped. It was pleasing to find Tongan Whistlers widespread and well-established in the Vava'u group, as reported by Rinke (1986b). Their presence on 'Utungake seems to be a new record.

Acknowledgements. I thank Dr Shelley Sayes for collaborating in the trip to Tonga, Dr Viliami Puloka for a ride to Kapa I on the hospital boat, Tupou and Posesi Fanua and family for hospitality in Nuku'alofa, Donald Fabian and Eryll Fabian for allowing me to quote some of their bird sightings, Dr W. Böhme (Zoologisches Forschungsinstitut und Museum Alexander Koenig, Bonn) for lending specimens in his care, Dr G.R. Zug (National Museum of Natural History, Washington DC) for advice on the systematics of *Cryptoblepharus* and Dr Dieter Rinke for helpful discussion.

REFERENCES

- BROWN, W. C., and J. R. H. GIBBONS
1986 Species of the *Emoia samoensis* group of lizards (Scincidae) in the Fiji Islands, with descriptions of two new species. *Proc. California Acad. Sci.* 44:41-53.
- CROMBIE, R. I., and D. W. STEADMAN
1986 The lizards of Rarotonga and Mangaia, Cook Island group, Oceania. *Pacific Sci.* 40:44-57.
- DAVIDSON, J. M.
1979 Samoa and Tonga. In Jennings, J.D. (Ed). *The Prehistory of Polynesia*. Canberra, ANU Press. 399p.

- DHONDI, A.
 1976 Bird notes from the Kingdom of Tonga. *Notornis* 23:4-7.
- GIBBONS, J. R. H., and W. C. BROWN
 1988 A new *Lepidodactylus* (Gekkonidae) from Eua Island, Tonga. *J. Herpetology* 22:356-360.
- GILL, B. J.
 1987 Notes on the birds, reptiles and mammals of Tongatapu and 'Eua (Tonga). *Notornis* 34:217-223.
 1988 Records of birds and reptiles from Tonga. *Rec. Auckland Inst. Mus.* 25:87-94.
- INEICH, I.
 1987 Description d'une nouvelle espèce du genre *Emoia* (Sauria, Scincidae) en Polynésie française. *Bull. Mus. National d'Histoire Naturelle de Paris* 9:491-494.
- PRATT, H. D., P. L. BRUNER and D. G. BERRETT
 1987 *A Field Guide to the Birds of Hawaii and the Tropical Pacific*. Princeton, Princeton University Press. 409p. plus plates.
- RINKE, D.
 1986a Notes on the avifauna of Niuafu'ou Island, Kingdom of Tonga. *Emu* 86:82-86.
 1986b The status of wildlife in Tonga. *Oryx* 20:145-151.
 1987 The avifauna of 'Eua and its off-shore islet Kalau, Kingdom of Tonga. *Emu* 87: 26-34.